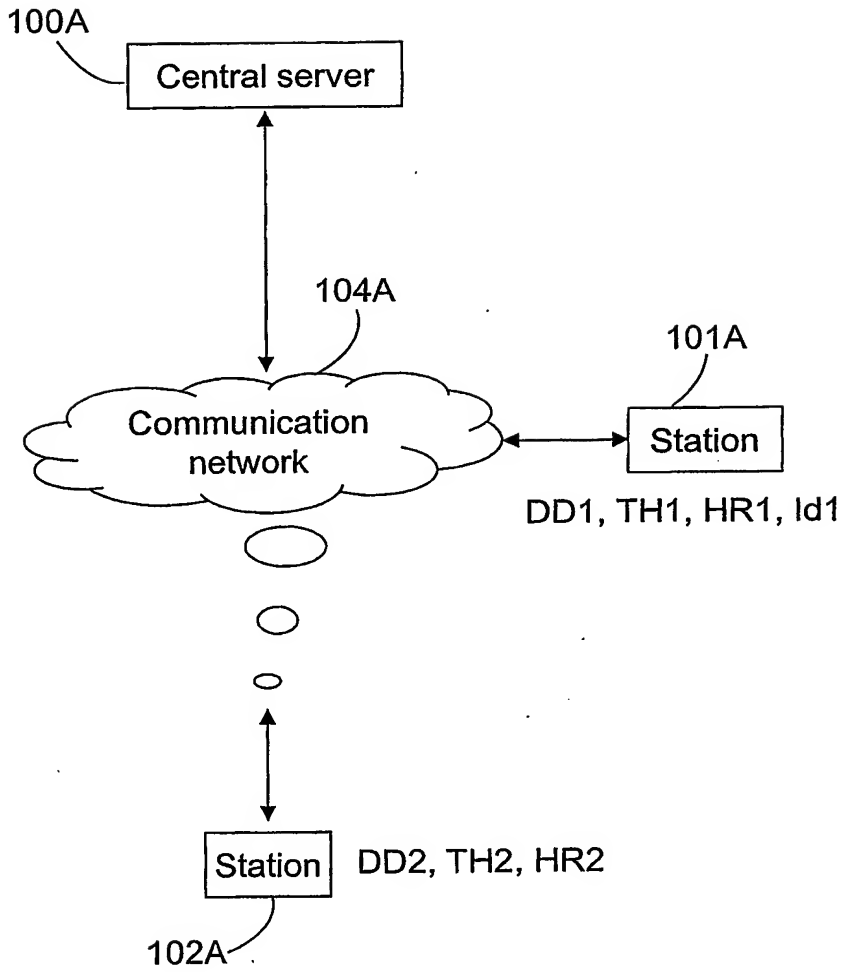
100A
Central server
104A
101A
Communication network
Station
DD1, TH1, HR1, Id1
Station
DD2, TH2, HR2
102A

FIG. 1A

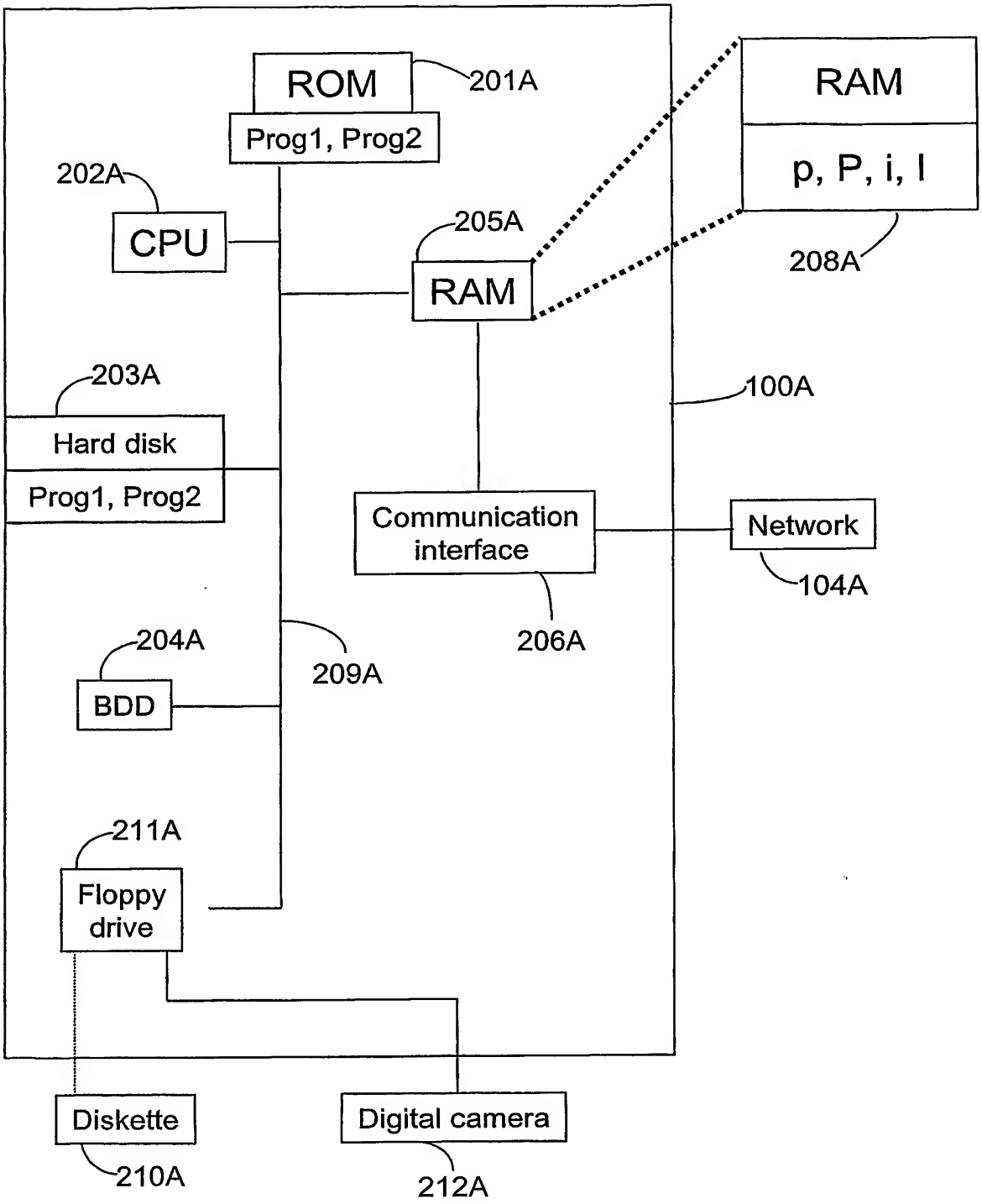
ROM
201A
Prog1, Prog2
RAM
p, P, i, I
208A
202A
CPU
205A
RAM
203A
100A
Hard disk
Prog1, Prog2
Communication interface
Network
104A
206A
204A
209A
BDD
211A
Floppy drive
Diskette
210A
Digital camera
212A

FIG. 2A

Table of users	
User Id	- Name - Password - Reference station Id

Table of stations	
Station Id	- Name - IP Address - Port

Table of indices			
Document Id	Version Id	Station Id	Access path

Table of requests		
Thumbnail	Version Id	Station Id

FIG. 3A

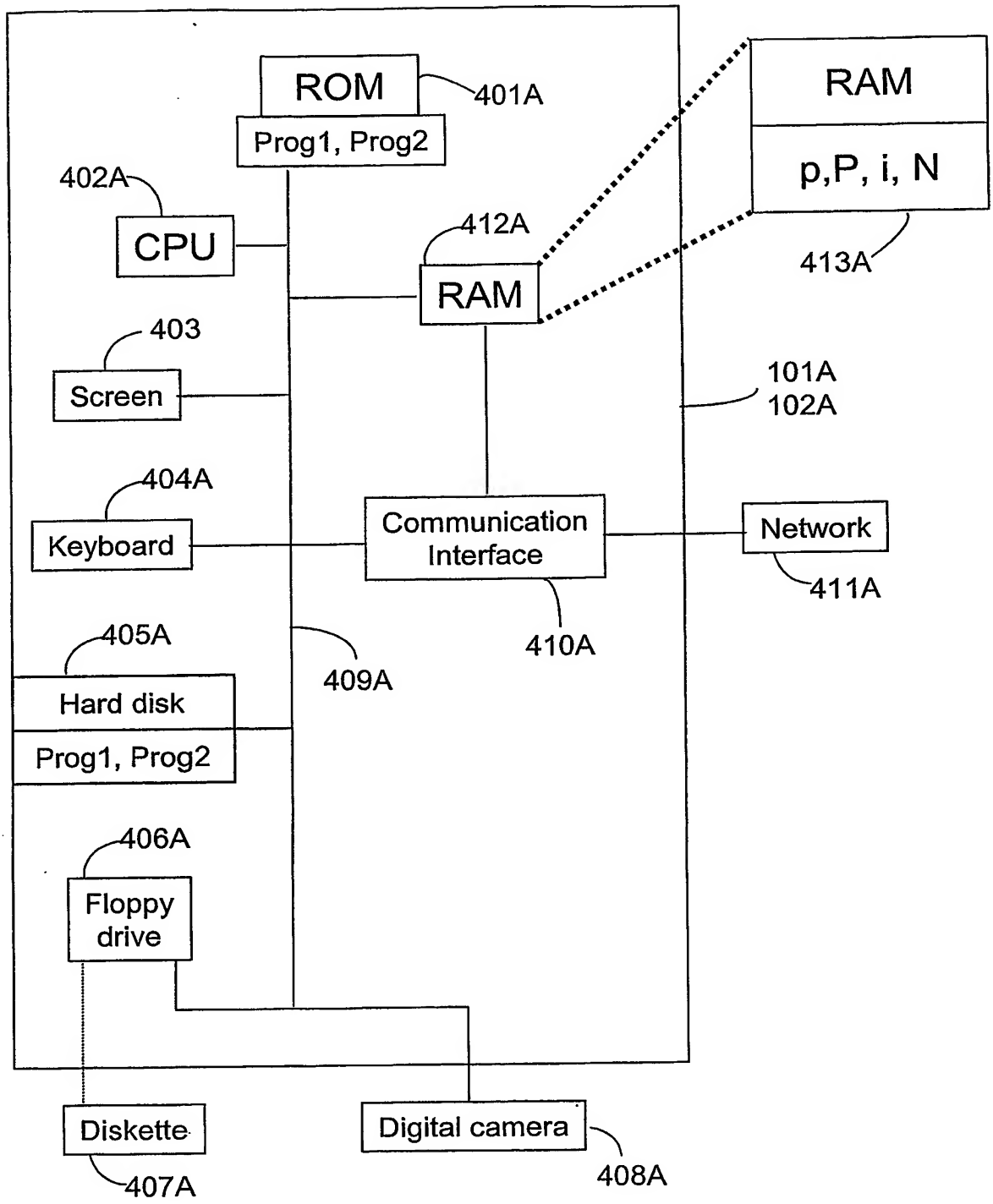
ROM
401A
Prog1, Prog2
RAM
p,P, i, N
413A
402A
CPU
412A
RAM
403
Screen
101A
102A
404A
Keyboard
Communication Interface
Network
411A
410A
405A
409A
Hard disk
Prog1, Prog2
406A
Floppy drive
Diskette
407A
Digital camera
408A

FIG. 4A

Table of documents		
Document Id	Version Id	Access path

Table of thumbnails		
String of characters	Version Id	Version Id

FIG. 5

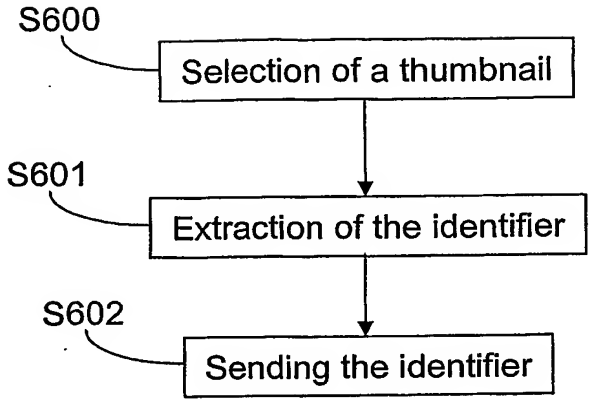
S600
Selection of a thumbnail
S601
Extraction of the identifier
S602
Sending the identifier

FIG. 6

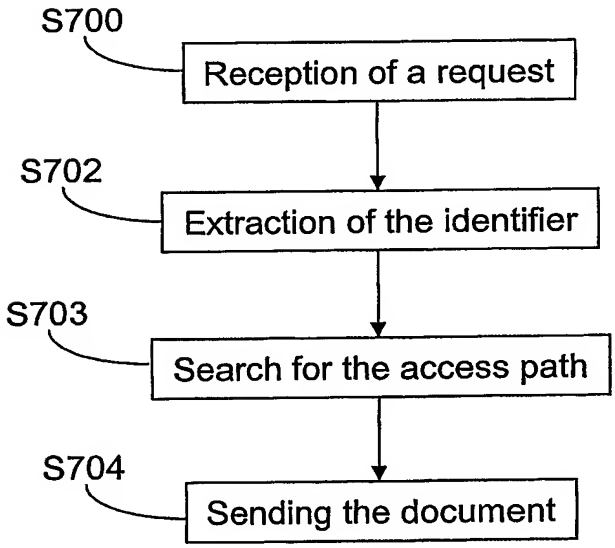
S700
Reception of a request
S702
Extraction of the identifier
S703
Search for the access path
S704
Sending the document

FIG. 7

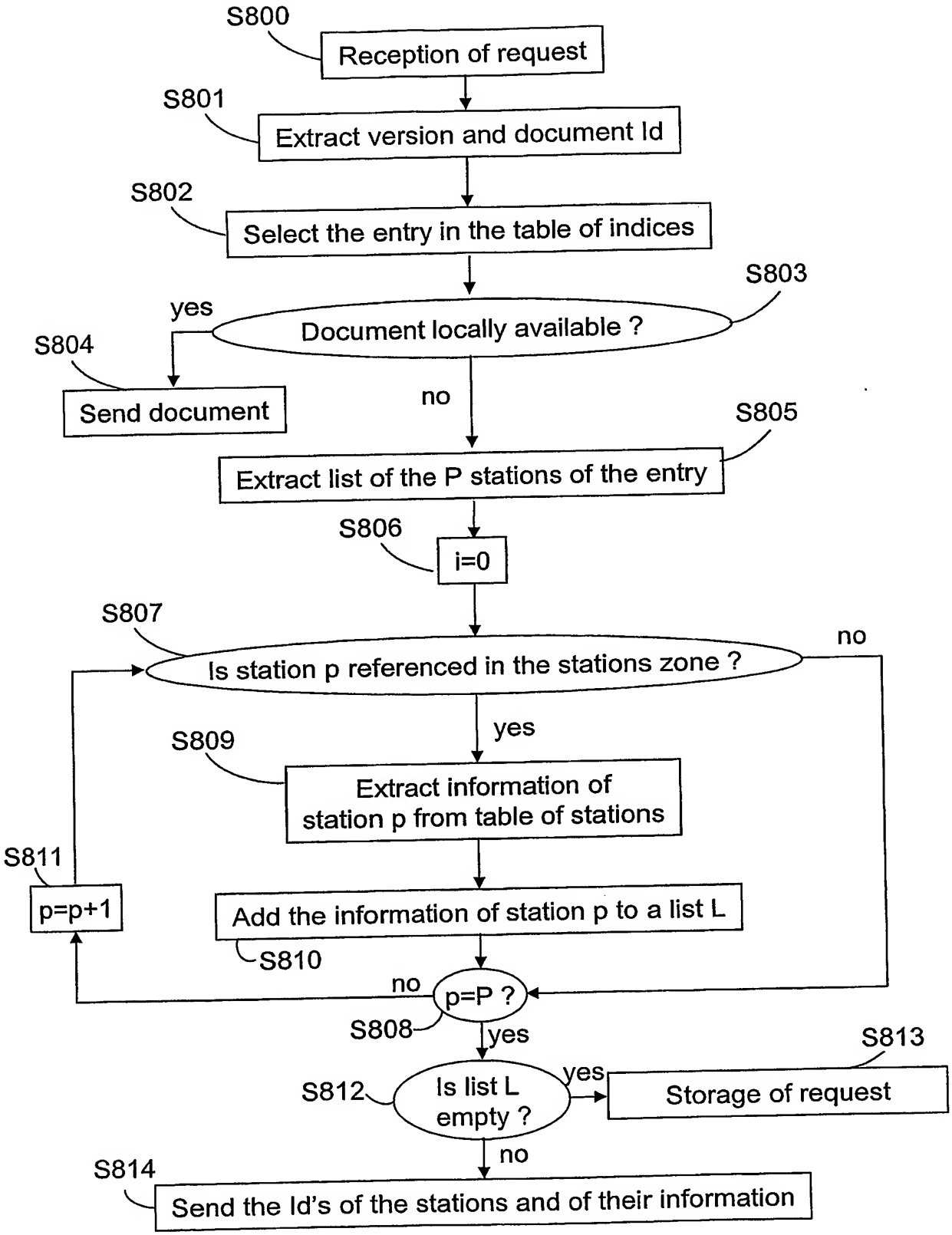
S800
Reception of request
S801
Extract version and document Id
S802
Select the entry in the table of indices
S803
Document locally available ?
yes
S804
Send document
no
S805
Extract list of the P stations of the entry
S806
i=0
S807
Is station p referenced in the stations zone ?
no
yes
S809
Extract information of station p from table of stations
S811
p=p+1
Add the information of station p to a list L
S810
no
p=P ?
S808
yes
S813
S812
Is list L empty ?
yes
Storage of request
no
S814
Send the Id's of the stations and of their information

FIG. 8

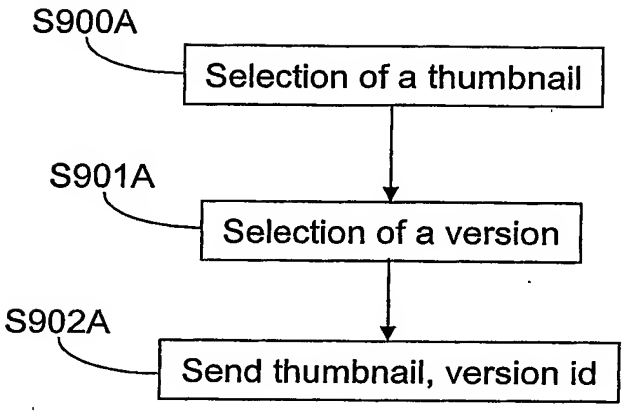
S900A
Selection of a thumbnail
S901A
Selection of a version
S902A
Send thumbnail, version id

FIG. 9A

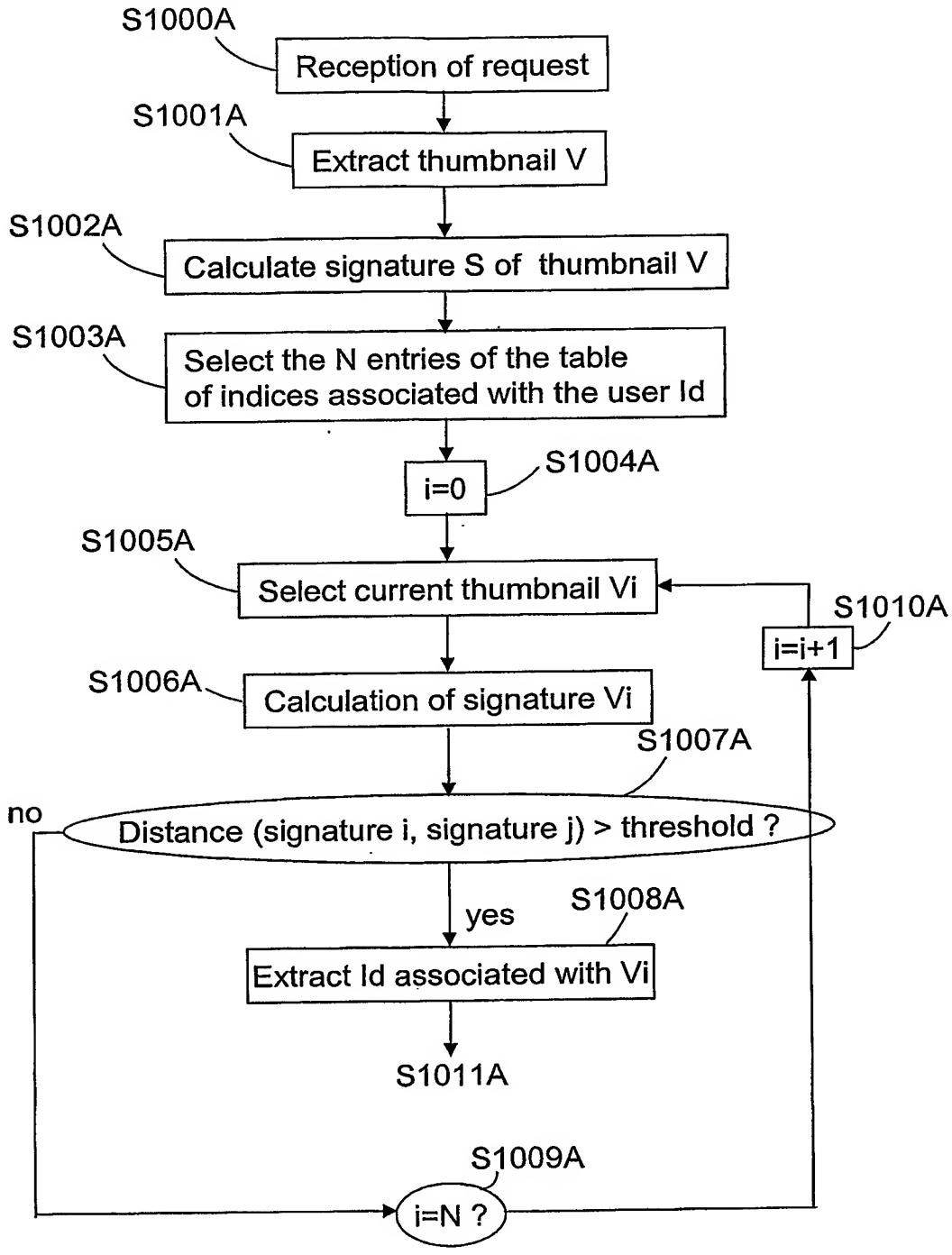
S1000A
Reception of request
S1001A
Extract thumbnail V
S1002A
Calculate signature S of thumbnail V
S1003A
Select the N entries of the table of indices associated with the user Id
i=0
S1004A
S1005A
Select current thumbnail Vi
S1010A
i=i+1
S1006A
Calculation of signature Vi
S1007A
no
Distance (signature i, signature j) > threshold ?
yes
S1008A
Extract Id associated with Vi
S1011A
S1009A
i=N ?

FIG. 10A

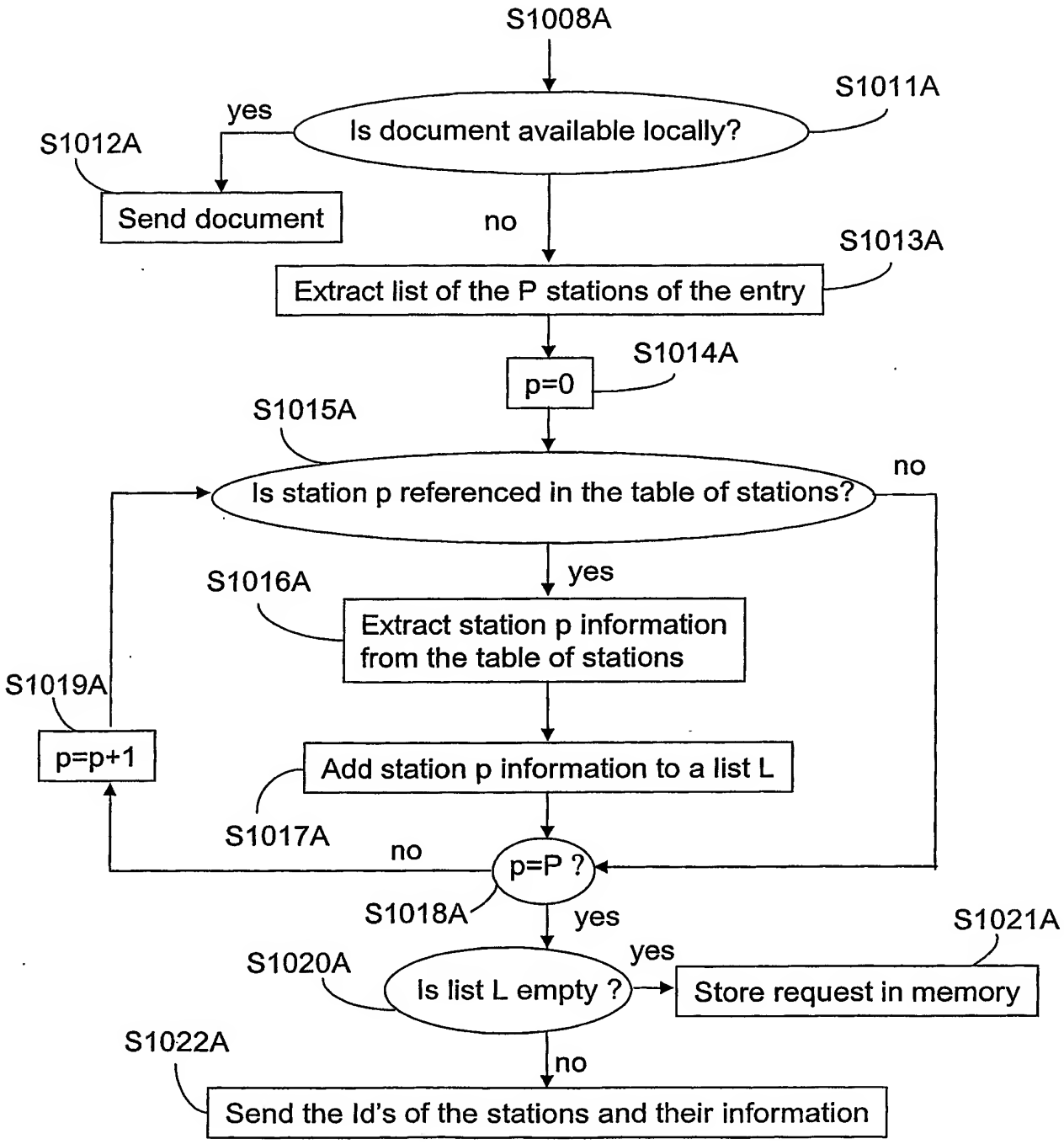
S1008A
S1011A
Is document available locally?
yes
S1012A
Send document
no
S1013A
Extract list of the P stations of the entry
S1014A
p=0
S1015A
Is station p referenced in the table of stations?
no
yes
S1016A
Extract station p information from the table of stations
S1019A
p=p+1
Add station p information to a list L
S1017A
no
p=P ?
S1018A
yes
S1021A
yes
S1020A
Is list L empty ?
Store request in memory
S1022A
no
Send the Id's of the stations and their information

FIG. 11A

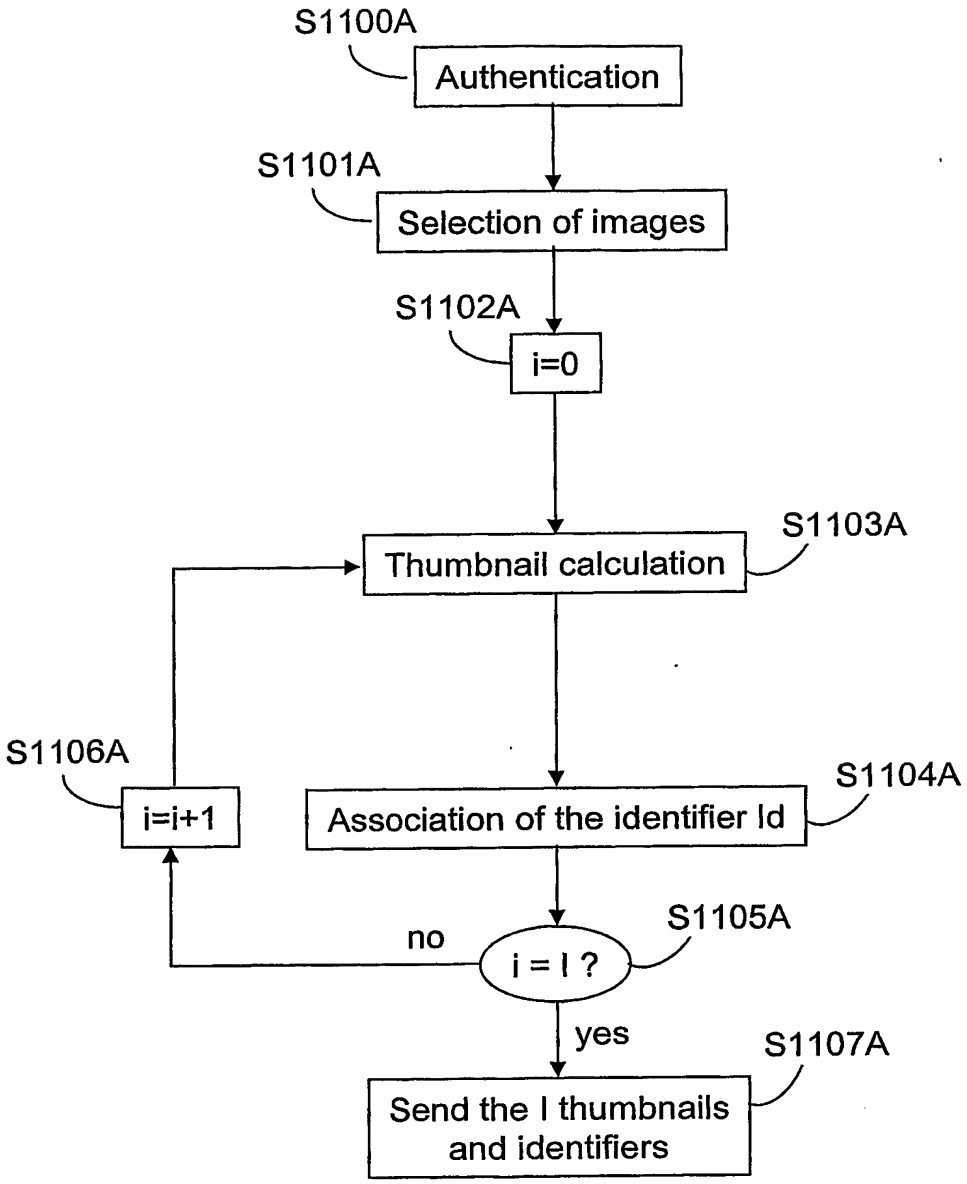
S1100A
Authentication
S1101A
Selection of images
S1102A
i=0
S1103A
Thumbnail calculation
S1106A
i=i+1
S1104A
Association of the identifier Id
S1105A
no
i = I ?
yes
S1107A
Send the I thumbnails and identifiers

FIG. 12A

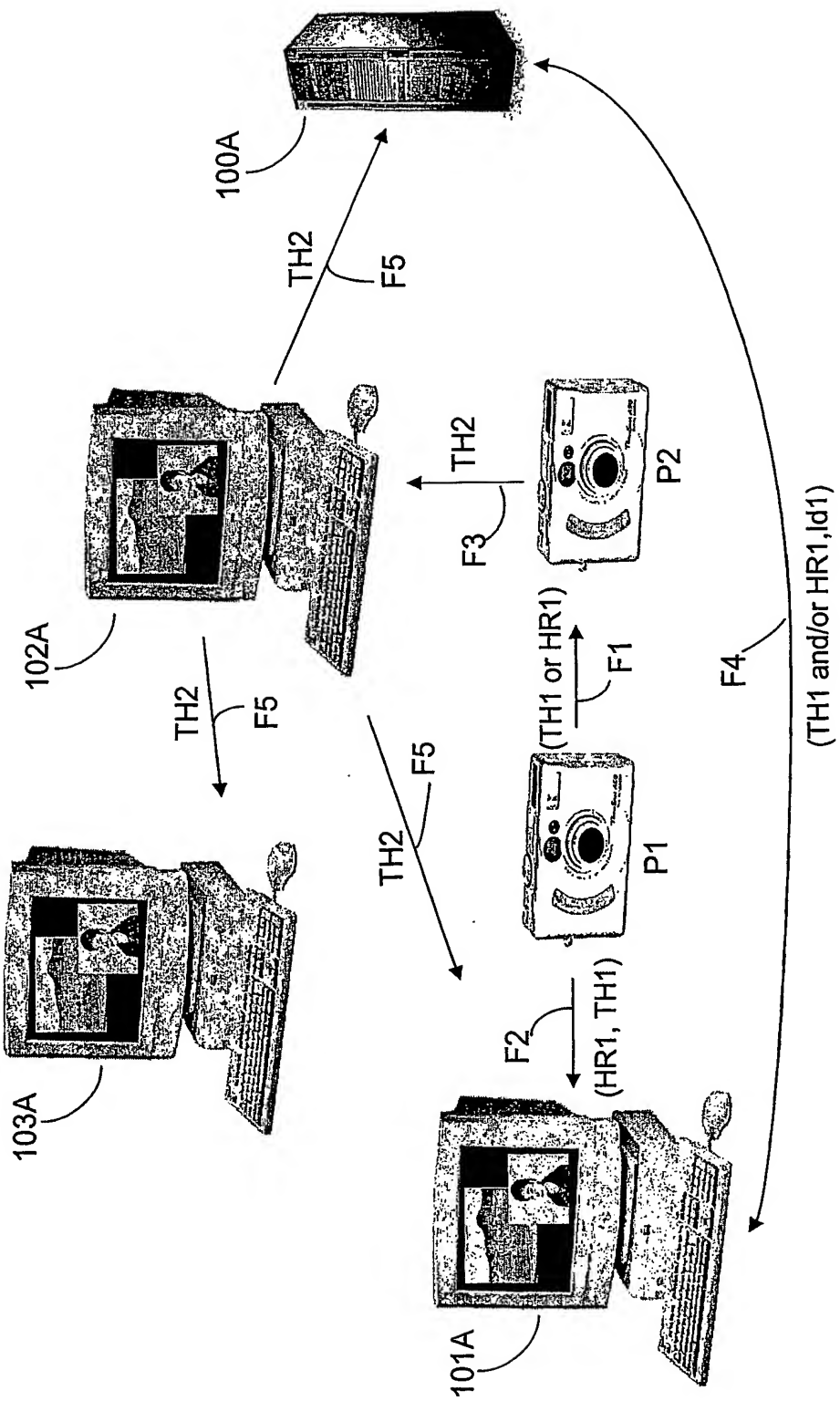
100A
TH2
F5
102A
TH2
F3
P2
TH2
F5
(TH1 or HR1)
F1
F4
(TH1 and/or HR1,Id1)
TH2
F5
P1
103A
F2
(HR1, TH1)
101A

FIG. 13A

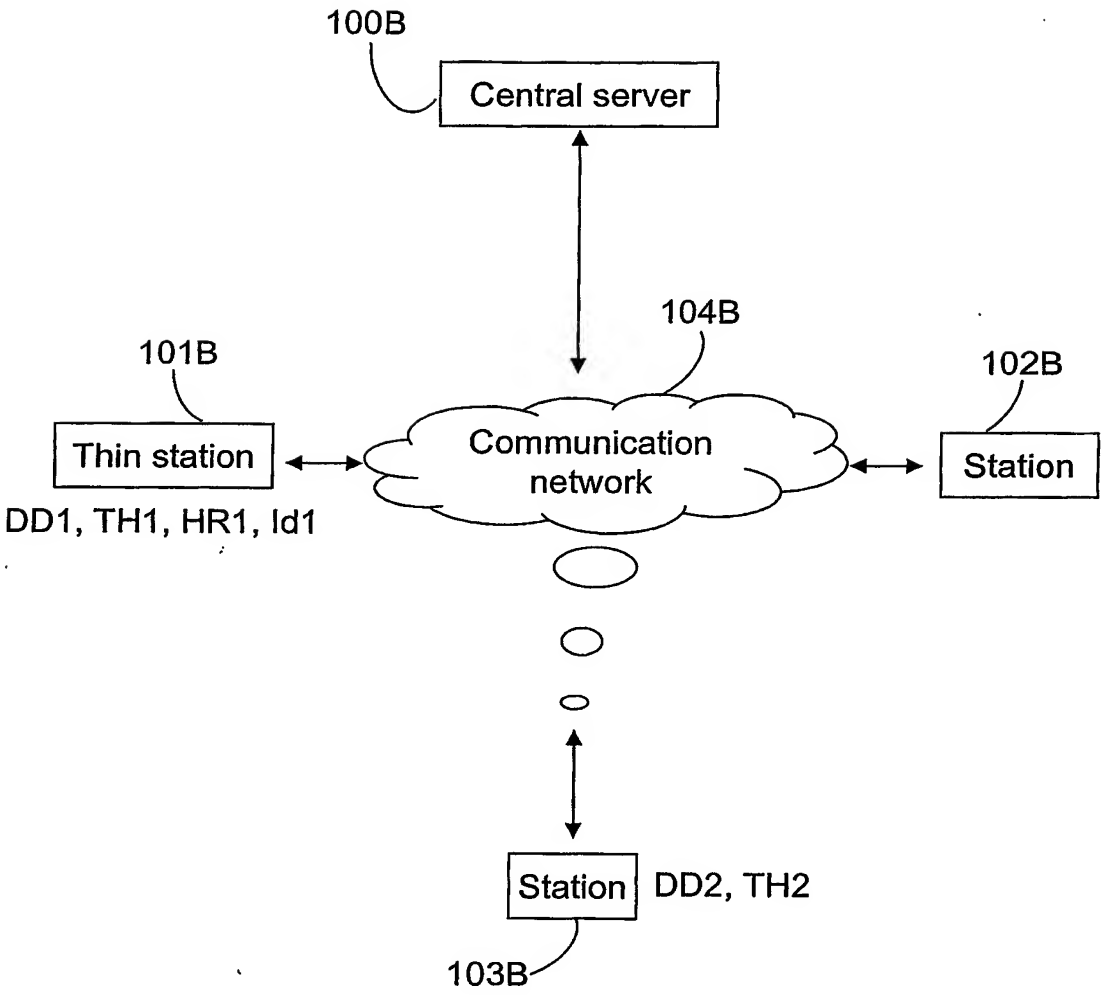
100B
Central server
104B
101B
102B
Thin station
Communication network
Station
DD1, TH1, HR1, Id1
Station
DD2, TH2
103B

FIG. 1B

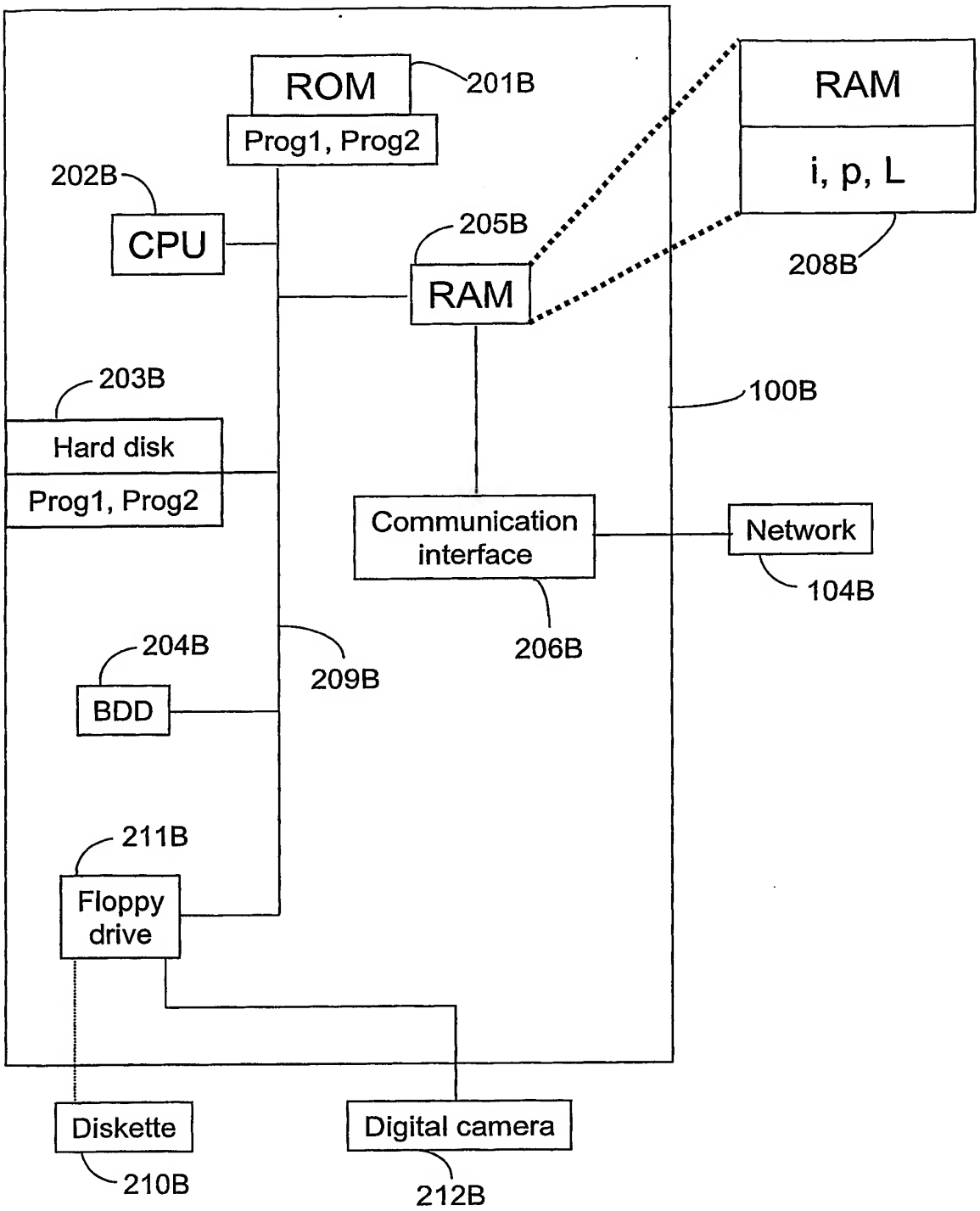
ROM
201B
Prog1, Prog2
RAM
i, p, L
208B
202B
CPU
205B
RAM
203B
100B
Hard disk
Prog1, Prog2
Communication interface
Network
104B
206B
204B
209B
BDD
211B
Floppy drive
Diskette
210B
Digital camera
212B

FIG. 2B

Table of users	
User Id	- Name - Password - Reference station Id

Table of stations	
Station Id	- Name - IP address - Port

Table of indices			
Document Id	Version Id	Station Id	Access path

FIG. 3B

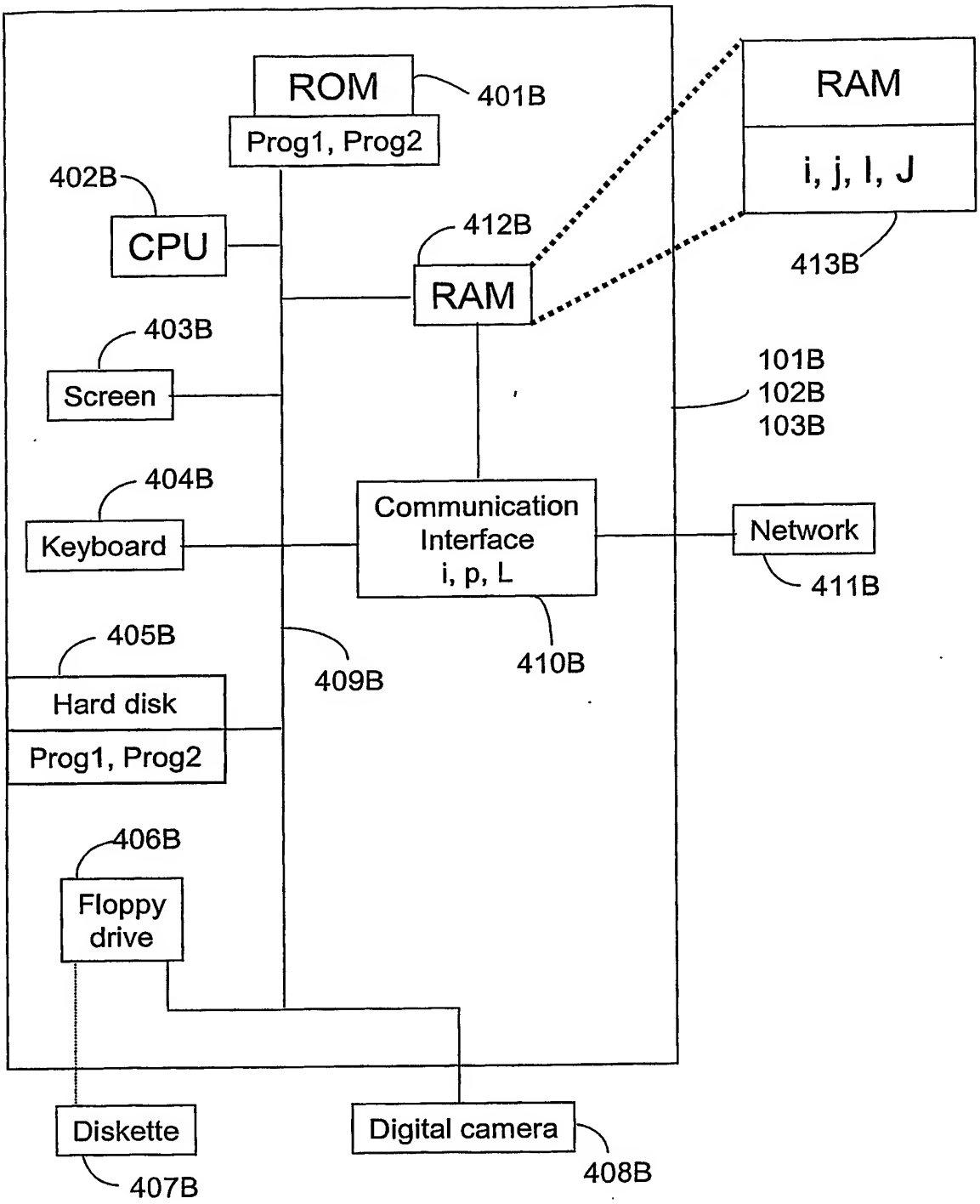
ROM
401B
Prog1, Prog2
RAM
i, j, l, J
413B
402B
CPU
412B
RAM
403B
Screen
101B
102B
103B
404B
Keyboard
Communication Interface
i, p, L
Network
411B
410B
405B
409B
Hard disk
Prog1, Prog2
406B
Floppy drive
Diskette
407B
Digital camera
408B

FIG. 4B

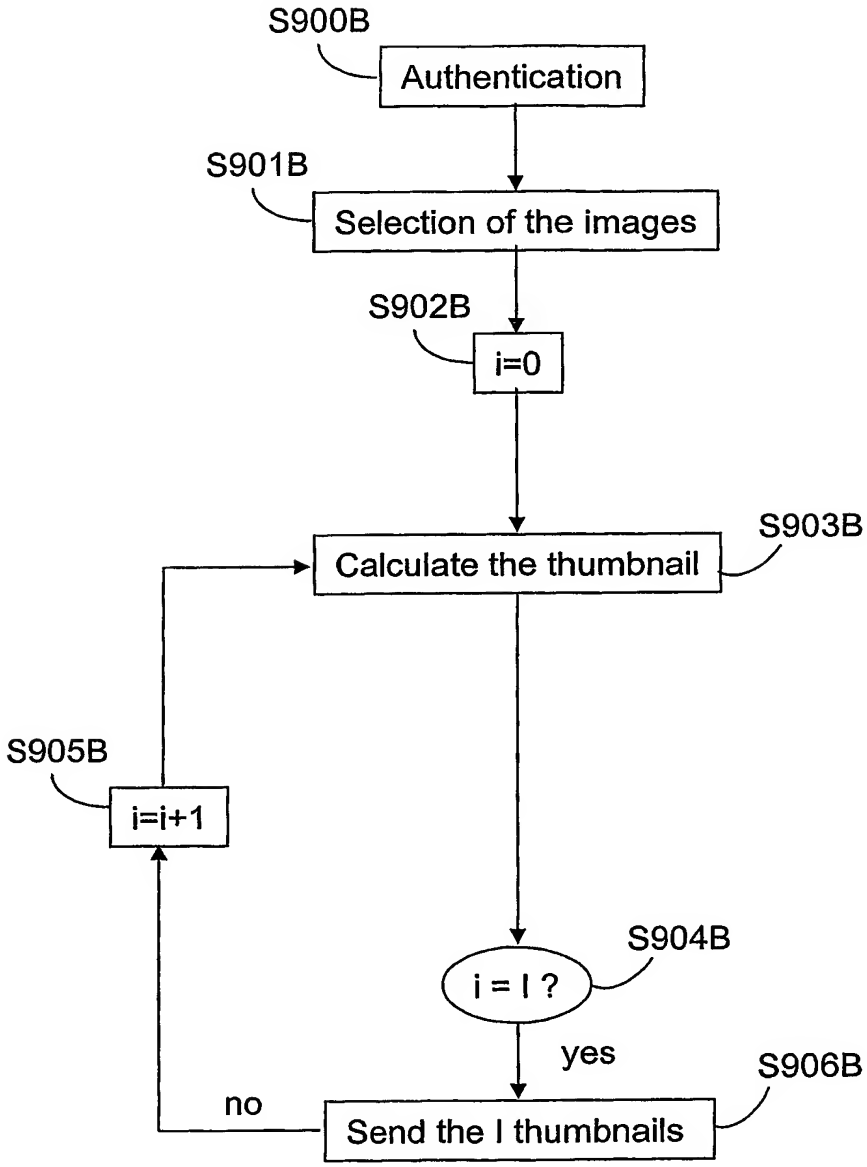
S900B
Authentication
S901B
Selection of the images
S902B
i=0
S903B
Calculate the thumbnail
S905B
i=i+1
S904B
i = I ?
yes
S906B
no
Send the I thumbnails

FIG. 9B

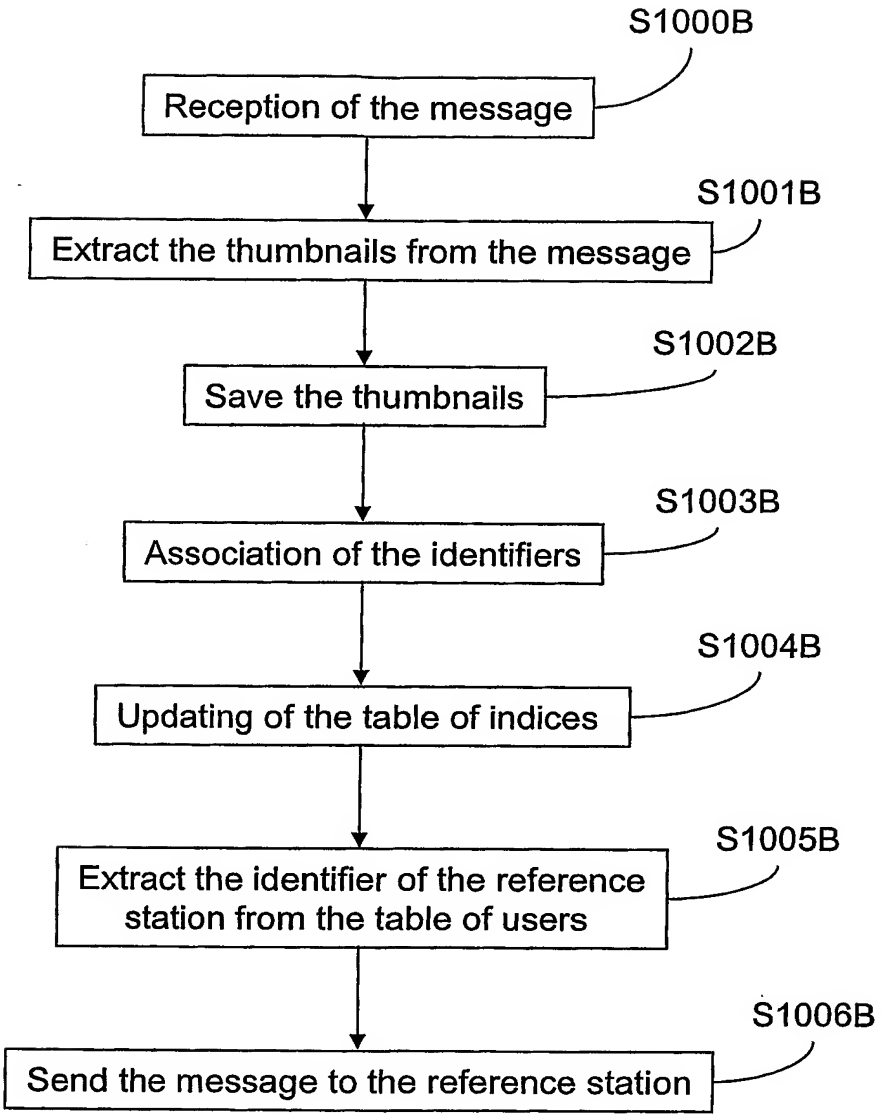
S1000B
Reception of the message
S1001B
Extract the thumbnails from the message
S1002B
Save the thumbnails
S1003B
Association of the identifiers
S1004B
Updating of the table of indices
S1005B
Extract the identifier of the reference station from the table of users
S1006B
Send the message to the reference station

FIG. 10B

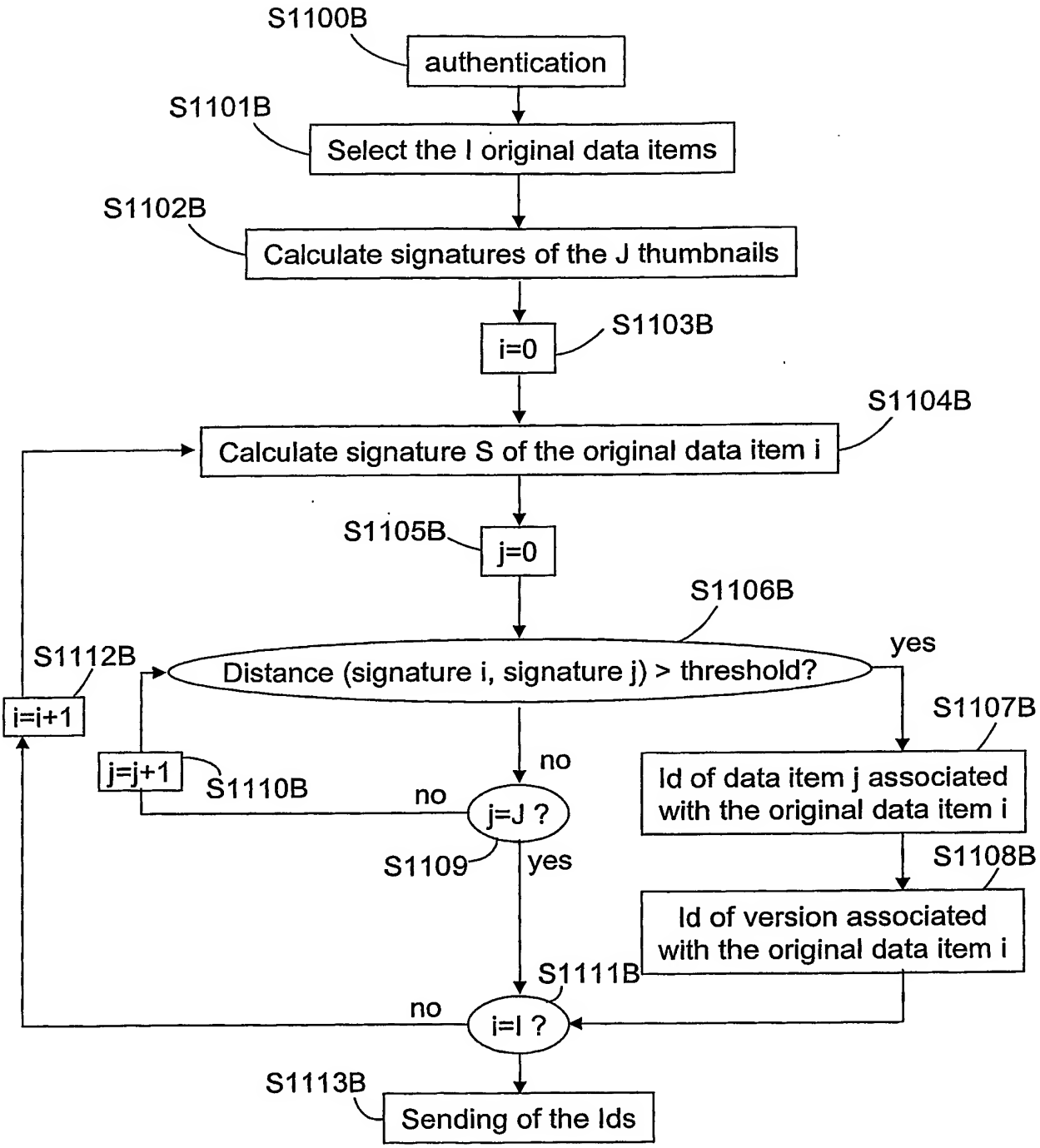
S1100B
authentication
S1101B
Select the I original data items
S1102B
Calculate signatures of the J thumbnails
i=0
S1103B
S1104B
Calculate signature S of the original data item i
S1105B
j=0
S1106B
Distance (signature i, signature j) > threshold?
yes
S1107B
Id of data item j associated with the original data item i
S1108B
Id of version associated with the original data item i
no
j=J ?
S1109
yes
no
j=j+1
S1110B
S1112B
i=i+1
S1111B
no
i=I ?
S1113B
Sending of the Ids

FIG. 11B

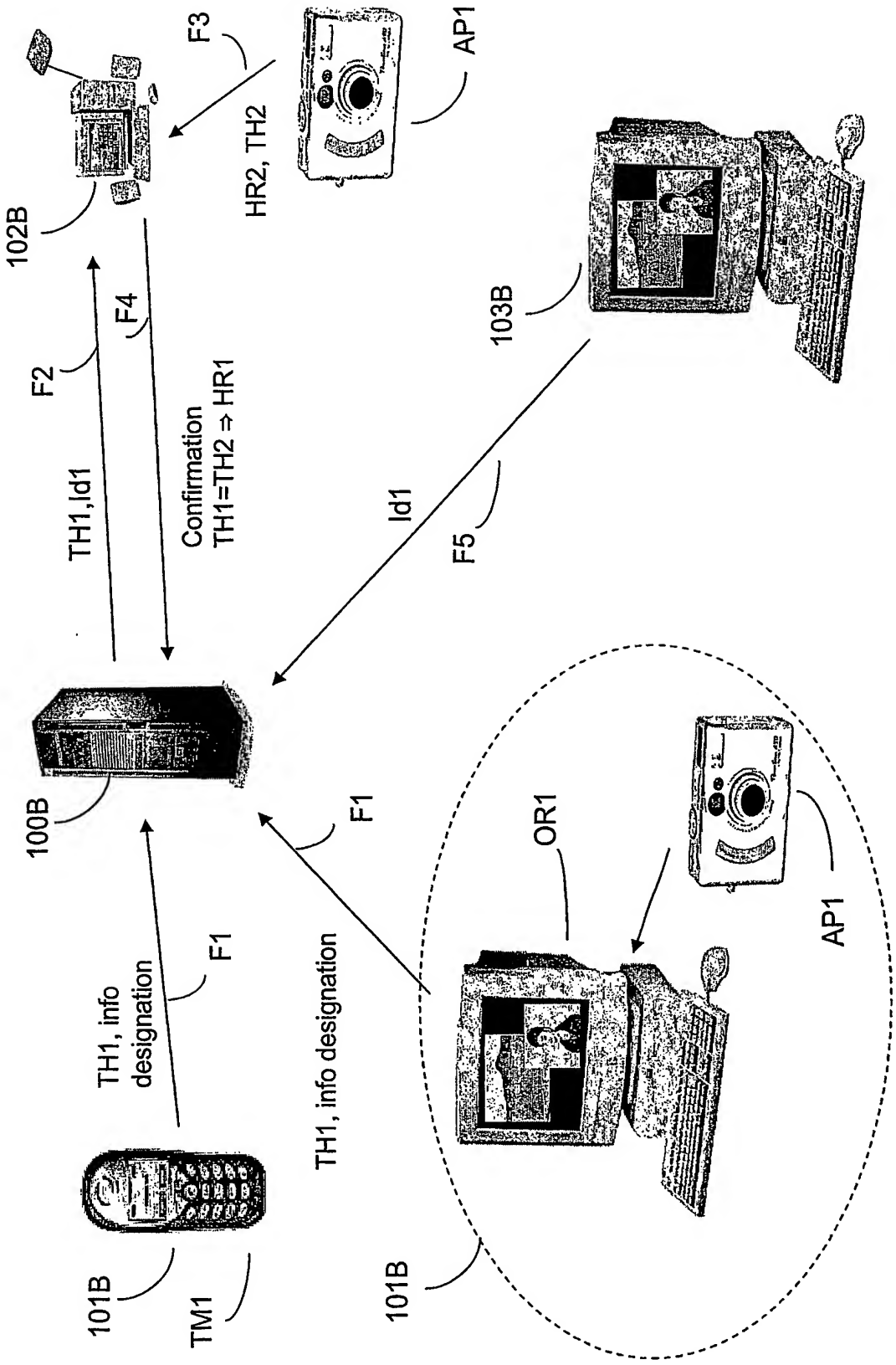
F3
AP1
HR2, TH2
102B
F2
F4
TH1,Id1
Confirmation
TH1=TH2 ⇒ HR1
103B
Id1
F5
100B
F1
OR1
AP1
TH1, info designation
F1
TH1, info designation
101B
TM1
101B

FIG. 13B